REMARKS

This application has been carefully reviewed in light of the Final Office Action mailed July 21, 2006 (hereinafter the "Final Office Action"). In light of the examiner's remarks, applicants respectfully submit the above amendments and accompanying remarks and request reconsideration and favorable action in this case.

I. STATUS OF THE CLAIMS

Upon entry of this Amendment, claim 2 is canceled, leaving claims 1 and 3-30 pending in the application. Claims 1 and 3-30 are therefore at issue with claim 1 being the only independent claim at issue. Claims 1, 3, 13-27 and 30 are currently amended. Some of the basic recitations of canceled claim 2 have been added to claim 1, while support for the additional amendments to claim 1 can be found in the specification as originally filed at page 7, lines 15-19, and page 10, lines 7-28. As a result, no new matter is being added hereby. Moreover, certain of the dependent claims have been amended to depend directly from claim 1 instead of from canceled claim 2, and to eliminate an possible basis for construing these claims as reciting step-plus-function elements under 35 U.S.C. § 112 ¶ 6.

II. REJECTIONS UNDER 35 U.S.C. §103

Applicants respectfully traverse the rejections of claims 1 and 3-30 as obvious over Bugarin et al. (U.S. Patent No. 6,606,570) in light of the above amendments, which more specifically distinguish the present invention from the cited reference.

Generally speaking, each of claims 1 and 3-30 recites a method of configuring a process plant by modeling the operation of each of a plurality of different process control instruments within the specific process control environment and calculating and displaying performance characteristics indicating measures of the modeled performance of these various process control instruments when operated within the specific process plant environment. In particular, each of the pending claims recites a method that receives data related to a specific process control environment in which at least one of the plurality of process control instruments is potentially to be used, uses a computer device to model the operation of each of the plurality of process control instruments within the specific process control environment defined by the received data to determine how each of the plurality of process control instruments performs within that environment, determines from the modeled operation of

each of the plurality of process control instruments one or more performance characteristics for each of the plurality of process control instruments indicating a measure of the modeled performance of each of the process control instruments when used in the specific process control environment, and displays the performance characteristics for each of the plurality of the process control instruments simultaneously via the computer device. In this manner, the claimed method provides a plant designer with specific performance information needed by the designer to decide which of the various possible process control instruments (or even different types of process control instruments) that ***can*** be used in a particular process control environment, would be most suitable or best adapted for use in that environment based on a comparison of the modeled performance characteristics of the various different process control instruments. Stated another way, each of claims at issue recites a method of determining and displaying for a user the manner in which various process control devices respond to the stimuli of a specific, user-defined process control environment, which allows the user to select, from among the instruments that could operate in that environment, a process control instrument that has the best overall suitability for that particular process control environment as defined by the various performance characteristics determined for each of the process control instruments.

By contrast, Bugarin et al. discloses a method of "remote sizing and ordering of Coriolis flowmeters" (Bugarin et al., Col. 7, ll. 13-14) that ultimately allows a user to select and order a process control instrument (in particular, a Coriolis flow meter) that will be *operable* within a specific, user-defined process control environment. However, the Bugarin et al. system operates without actually modeling the operation of any flow meter device within a specific process control environment in which it is to be used (as recited by each of the pending claims) and without determining any performance characteristics indicating the manner in which a particular flow meter will actually operate in the specific process control environment (as would be required by each of the pending claims). Thus, contrary to the examiner's apparent assertion, Bugarin et al. does not disclose or suggest a system that actually models the operation of a process control instrument within a specific process control environment and certainly does not disclose a system that determines one or more performance characteristics defining the modeled operation of the process control instrument within the specific process environment being modeled, as recited by each of the pending claims.

While Bugarin et al. teaches collecting process environment data including flow stream parameters (e.g., pressure, density, temperature, flow rate, and viscosity), Bugarin et al. only uses this process environment data to determine the minimum required parameters or specifications (tolerances) that must be obtained by ***any*** process control instrument to be used within the specific process control environment. Once Bugarin et al. determines the minimum tolerance requirements needed by a flow meter to be used in the process plant, the Bugarin et al. system merely identifies all of the process control instruments that operate somewhere within the determined tolerances, and displays a list of these instruments to a user. This operation is completely different than actually modeling the operation of a set of possible process control instruments within the specific process control environment to determine one or more performance characteristics defining the expected or modeled operation of each of the specific process control instruments when operating within the specific process control environment, as recited by the pending claims.

In fact, because the Bugarin et al. system does not model the operation of a specific flow meter within a specific process control environment, the Bugarin et al. system cannot provide a user with any information other a list of all of the Coriolis flow meters that will work at some minimum level in the process control environment. The user of the Bugarin et al,. system is simply left to his or her own knowledge and intuition to select one of determined set of possible process control instruments to actually use within the process plant without any other guidance on the part of the Bugarin et al. system. Put another way, because the Bugarin et al. system does not compute performance characteristics for each of a set of process control instruments, wherein the performance characteristics define the specific operation of that process control device within the specific process environment, the Bugarin et al. system does not enable a user to compare the expected (modeled) operation of different possible process control instruments when choosing which process control instrument to actually use within the process control environment.[1]

[1] The applicants realize that the step of selecting a process control instrument best suited for use in the process control environment is not recited in the claims, and are not relying on this step for the patentability of the claims. Instead, the point being made is that the Bugarin et al. system does not calculate any type of performance characteristic based on the modeled operation of a process control instrument within a specific process control environment (which is recited by the claims), wherein such performance characteristics would allow a user to make a determination about the best process control instrument to use in a given process control situation.

As the examiner will understand, the Bugarin et al. system starts with the known proposition that every Coriolis flow meter is designed to operate between a minimum and a maximum fluid density, below a maximum flow rate, between a minimum and a maximum temperature, below a maximum operating pressure, and below a maximum pressure drop across the flow meter, and that outside of the operating conditions specified for a given flow meter, these devices will not function properly to actually measure the fluid flow. As a result, the Bugarin et al. system merely determines which Coriolis flow meters could operate in a particular environment, based on the pressure, density, temperature, flow rate, and viscosity of the fluid within that environment. However, the Bugarin et al. system does not and cannot determine how well any of the Coriolis flow meters will perform in the specific process control environment and does not provide any quantitative measurement or estimate of the actual performance of any particular flow meter when that flow meter is actually installed within the process plant.

Applicants respectfully disagree with the examiner's contention that Bugarin et al. discloses a system that calculates or determines one or more performance characteristics of a process control instrument, indicating the modeled performance of the process control instrument when used in the specific process control environment. The sections of Bugarin et al. cited by the examiner simply do not support the examiner's contention in this regard. In particular, neither of the elements 420 and 425 of the flow chart of Fig. 4, none of the elements of the flowcharts of Figs. 5 or 6 and none of the disclosure in the Bugarin et al. specification associated with these figures discloses computing a performance measure actually achieved by a particular process control instrument when that instrument is disposed within a specific process environment. Instead, at best, these sections of Bugarin et al. merely identify specifics of the process plant environment (Fig. 5), compute the process plant parameters defining the environment into which a flow meter is to be placed, and use these process plant parameters to select a Coriolis flow meter that can operate within the bounds of the plant parameters (i.e., one that will work within the defined process environment). However, the Bugarin et al. system does not actually model the operation of any flow meter within a specific process environment to determine any measure or characteristic defining the actual operation of the flow meter.

The relevant operation of the Bugarin et al. system is best understood by the discussion of both Figs. 4 and 6. In particular, element 415 of Fig. 4 receives input flow

stream parameters from a client identifying "process plant parameters" in the form of fluid flow, fluid viscosity, density, etc. The element 420 of Fig. 4 then determines required or minimal "flowmeter parameters from the input flow stream parameters." (Bugarin et al., Col. 7, ll. 41-42). Here it is significant that the "flowmeter parameters" are determined solely from the input flow stream parameters, which are merely data describing the process environment (i.e., fluid flow rate, viscosity, density and temperature). In particular, because the "flowmeter parameters" are determined solely from the input flow stream parameters, these "flowmeter parameters" cannot be the recited performance characteristics defining the operation of an actual process control instrument as placed within the process control environment. Instead, these "flowmeter parameters" merely define the tolerances or minimal requirements that any flow meter to be used must meet.

The description of the flowchart 600 of Fig. 6 further supports the proposition that the "flowmeter parameters" are not the recited performance characteristics as, in each case, the flowchart of Fig. 6 calculates the flow meter accuracy, pressure loss across the flow meter and fluid velocity from "the input flow stream parameters." There is simply no indication that the "flowmeter parameters" of Bugarin et al. define or indicate a performance characteristic of a specific flow meter based on the modeled operation of this flow meter within a specific plant environment.

Moreover, it is clear from the Bugarin et al. description that the operation of element 420 of Fig. 4 and of the flowchart 600 of Fig. 6 occur ***prior*** to any specific Coriolis flow meter being chosen or identified for use in a process plant. Thus, it would be impossible to model the operation of a specific flow meter within a process control environment to determine one or more performance characteristics for that flow meter as used within the process control environment at this point in the Bugarin et al. process simply because no specific flow meter has yet been identified upon which to based the modeled operation. In particular, after describing the operation of element 420 (Fig. 4) and the flowchart 600 (Fig. 6), the Bugarin et al. specification goes on to say that, after the "flowmeter parameters" are determined, the "process 400 ***continues*** by determining at least one model of flowmeter that has tolerances acceptable for the determined flowmeter parameters in step 425." (Bugarin et al., Col. 7, ll. 50-53) Thus, it is clear that the "flowmeter parameters" of Bugarin et al. are not performance characteristics of process control instrument indicating the ***modeled*** performance of the process control instrument, as recited by each of the pending claims.

Instead, these "flowmeter parameters" are simply tolerances which must be met (or exceeded) by any process control instrument to be used within the defined process control environment. These tolerances do not define the actual performance of any piece of specific process equipment when used within the process control environment, but instead define the minimum performance that has to be achieved by these devices to be selected for use in the process control environment. For example, the fact that a Coriolis flow meter may generally operate to provide a flow meter accuracy of at least a minimum amount (as defined at step 420 of Fig. 4), does not mean that this flow meter will actually provide that exact minimum accuracy when used in the process plant. In fact, the flow meter will generally have a better accuracy than that defined by the calculated minimum flow meter accuracy.

In any event, for these reasons, applicants submit that Bugarin et al. does not disclose or suggest a method that models the operation of each of a plurality of process control instruments within a specific process control environment defined by received process control environment data, and furthermore does not disclose or suggest a method that determines from the modeled operation of each of the plurality of process control instruments, one or more performance characteristics for each of the plurality of process control instruments indicating the modeled performance of each of the process control instruments when used in the specific process control environment. Rather, Bugarin et al. merely discloses a method that calculates from user input, the required minimum parameters of a flow meter for use in a specific process control environment, and indicates only a set of process control instruments that *could* function in a specific process control environment because these devices at least meet the required minimum parameters.

It is clear that the prior art must teach or suggest all the claim limitations to establish a *prima facie* case of obviousness. *See, In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Because neither Bugarin et al. nor the examiner's Official Notice discloses or suggests a method that models the operation of each of a plurality of process control instruments within a specific process control environment defined by received process control environment data or that determines from the modeled operation of each of the plurality of process control instruments, one or more performance characteristics for each of the plurality of process control instruments indicating the modeled performance of each of the process control instruments when used in the specific process control environment, as

recited by each of the pending claims 1 and 3-30, it follows that no combination of Bugarin et al. and the examiner's Official Notice can render any of the pending claims obvious.

III. EXAMINER'S OFFICIAL NOTICE

Applicants respectfully maintain the traversal of the examiner's Official Notice of facts relied upon by the examiner in rejecting as obvious the claims of the present invention. Official Notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances and should only rarely be relied upon. *See*, M.P.E.P. § 2144.03(A). Official notice should only be taken by the examiner where the noticed facts are "capable of instant and unquestionable demonstration as being well-known." *Id.* By contrast, an examiner must always support by citation to some reference work recognized as standard in pertinent art assertions of "technical facts in areas of esoteric technology or specific knowledge of the prior art." *See*, *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420-21. Further, regardless of whether the examiner's Official Notice of facts is proper, the examiner's reliance solely upon "common knowledge" in the art, without evidentiary support in the record, as the principal evidence in rejecting the present claims is improper. *See*, *In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697. Moreover, such conclusions concerning what is "basic knowledge" or "common sense," in the absence of specific factual findings and concrete evidence in the record in support of those conclusions, will not support an obviousness rejection. *Id.*

Still further, pursuant to M.P.E.P. § 2144.03, applicants respectfully traverse each instance of the examiner's new official notice taken in the Final Office Action and respectfully request the examiner to provide written evidence of the facts of which he takes additional notice. In particular, applicants note that the examiner can only take office notice of facts, and cannot take official notice of a legal conclusion, i.e., that a combination of elements is "obvious." For example, it appears to be the examiner's tact in rejecting the dependent claims is to simply state that it is generally well known to perform the additional recitation of the dependent claim (in some unexplained context) and that it is "thus" obvious to do so in the claimed context, and then takes official notice to that effect. To the extent that the examiner is attempting to take official notice of the "obviousness" of the claims at issue, the applicants submit that this notice is legally defective as the determination of obviousness

is a legal conclusion, not a factual one. Still further, to the extent that the examiner is taking official notice that the common knowledge of one of ordinary skill in the art includes a "motivation" or a "suggestion" to combine known elements of the prior art with Bugarin et al. system (or any other prior art system),[2] the applicants submit that the examiner is simply incorrect and request, pursuant to M.P.E.P. § 2144.03, that the examiner provide documentary evidence of the particular motivation or suggestion within the prior art upon which the examiner relies.[3] The applicants are simply not aware of any prior art, either written or within the common knowledge of those of ordinary skill in the art, that includes or provides a motivation or a suggestion to make any of the combinations of elements referenced by the examiner in the Final Office Action dated July 21, 2006. Thus, to the extent that the examiner is relying on the common knowledge of one of ordinary skill in the art to provide the required motivation or suggestion to make the claimed combination of elements of any of the claims (or to the extent that the examiner is taking official notice to this effect), the examiner is requested, pursuant to M.P.E.P. § 21044.03 to provide documentary evidence showing such a motivation or suggestion, as the applicants are unaware of any such motivation or suggestion in the common knowledge of one of ordinary skill and thus submit that the examiner is wrong in this regard.

[2] See, for example, paragraph 13 of the Final Office Action dated July 21, 2006.

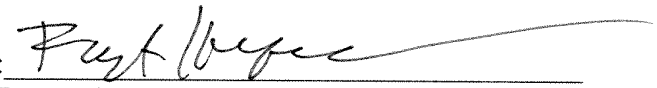
[3] The examiner appears to equate knowledge of a general element recited by dependent claim with a motivation to provide that element in the claimed combination of elements. These two are not the same, and the examiner's approach is legally impermissible as it simply does away with the required "motivation" or "suggestion to combine," which is an element the examiner must explicitly supply to make a *prima facie* case of obviousness.

IV. CONCLUSION

For these foregoing reasons, applicants submit that this application is in condition for allowance. Reconsideration and withdrawal of the rejections and allowance of the claims are therefore respectfully requested. However, if there are matters that can be discussed by telephone to further the prosecution of this application, applicants respectfully request that the examiner call applicants' attorney at the number listed below.

Respectfully submitted,

October 20, 2006

By: 

Roger A. Heppermann
Reg. No. 37,641

MARSHALL, GERSTEIN & BORUN LLP
6300 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606-6402
(312) 474-6300
Attorney for Applicants